

Energy Code (4 hrs)

Ohio, Indiana & Kentucky (2016)

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4.0 hrs continuing education for engineers, contractors and certified energy professionals

Course Description

Engineers, designers, technicians, contractors, consultants, building/equipment operators, and sometimes owners who are responsible for new commercial or residential structures, additions and major upgrades in Ohio, Kentucky and Indiana are required to comply with state energy codes based on the International Energy Conservation Code (IECC). Current energy codes in Ohio and Indiana are based on 2009 IECC, but in Kentucky are based on 2012 IECC for commercial, 2009 IECC for residential. IECC allows alternative compliance for commercial projects via the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 90.1. 2009 IECC references ASHRAE 90.1-2007, 2012 IECC references the 2010 version of ASHRAE 90.1. These documents include many mandates affecting electrical and thermal efficiencies as well as specific instructions about how to correctly size and/or limit capacities, especially for lighting power and HVAC equipment capacities.

The documents are not simple or one-size-fits-all. There are sometimes unique specifics covering particular applications. They also allow some limited "trade-offs" between worse-than-code specifications in some areas of jurisdiction and better-than-code specifications in other similar areas. The two documents (IECC and ASHRAE 90.1) are mostly similar in scope and overall requirements but major differences are explained as encountered. This course is ordered and presented according to the layout of IECC, with precise code language presented and discussed, including some commentary about practical meanings and intents.

This course covers both commercial and residential aspects of the energy code, but only the chapters covering HVAC, electricals and service hot water. The IECC and ASHRAE 90.1-2007 chapters covering thermal envelope design and construction are not covered because they are mostly relevant to designers and building contractors.

Both the IECC and ASHRAE 90.1 include provisions for "performance-based" compliance where pre-approved hour-by-hour software or other detailed calculations are used to demonstrate equivalent energy performance for special applications which may not comply with specifics in the energy code. This course only includes brief mentions and description of this process.

Learning Objectives

- Understand the many specific efficiency and controls requirements in IECC which relate to HVAC, electrical power and service hot water in new commercial and residential projects
- Become familiar with sometimes different requirements and options in ASHRAE Standard 90.1
- Learn code-required methods and restrictions for sizing heating and cooling equipment capacities
- Learn code-required methods and restrictions for sizing lighting wattage in commercial projects
- Learn code-required minimum efficiencies for HVAC, lighting and water heating equipment
- Become aware of what is required for "performance-based compliance" with energy code
- Be introduced to using free COMcheck and REScheck softwares for complying with IECC or ASHRAE 90.1

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